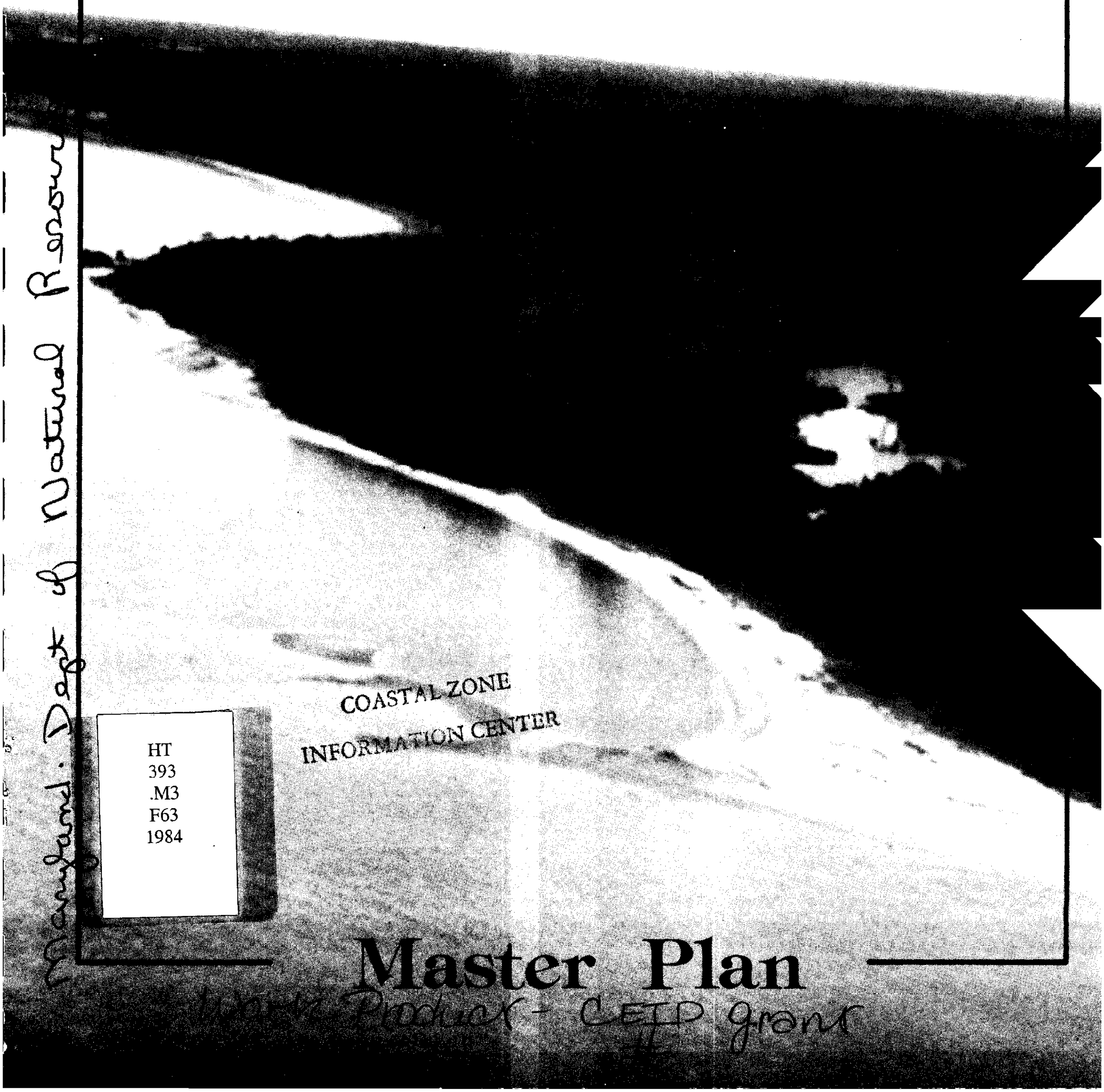
FLAG PONDS

NATURAL AREA



Maryland. Dept of Natural Resour

Master Plan

Work Product - CEIP grant

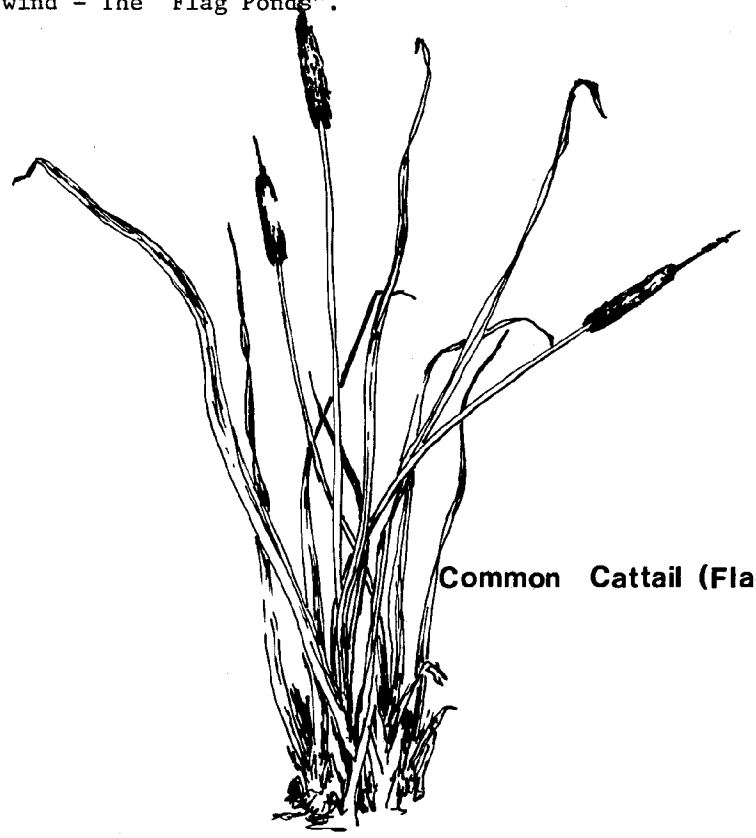
It has often been speculated where the name "Flag Ponds" originated. Some folks say the ribbon-like ponds resemble the stripes on the flag, and indeed an aerial view of the slender ponds would make one wonder! However, unless you had access to a hot air balloon in the early 1900's, when the name was probably taken, you would not be able to make the connection.

Other folks say it is named after a certain plant which grows on the property and waves like a flag in the wind when it blooms. This is a much more likely theory, in that several plant species which grow on the property are known as flag plants; and would have been an obvious shoreline marker for boats traveling the Bay or for any of the pound netters who off loaded their catch at the flag ponds between 1905 and 1955.

One has to remember that the flag ponds area is uncharacteristic of the western Chesapeake Bay shoreline. It is a wide sandy accreting cape, whereas the majority of the Bay shoreline is actively eroding steep cliffs. This flat area would lead to the establishment of colonies of plants which would be almost non-existent at that time anywhere else along the shoreline, and would have made a very visable marker.

Three plants come to mind or have been mentioned in support of this theory; Wild Iris, Cattail, and Phragmities. Wild Iris (Iris versicolor) is commonly known as the flag plant because it most resembles a flag when it blooms. However, there is no documentation that the Wild Iris exists at the flag ponds, and certainly never in a large quantity as to mark the area for boats traversing the Bay.

It makes sense, however, that one of the two, or both of the larger plants, Phragmities (Phragmities communis) and Cattail (Thypa latifolia), which are predominent around the fresh water pond areas, would have been obvious shoreline markers. Neither plant is known in a botanical sense as flag plants. However, it is likely that through local custom, Phragmities and/or Cattail became known as a flag plant at the site, and that the area was named after these majestic waving colonies of plants that bend so gracefully in the wind - The "Flag Ponds".



Common Cattail (Flag)

FLAG PONDS NATURAL AREA
MASTER PLAN

November 17, 1984

The Board of County Commissioners of Calvert County, Maryland on this 27th day of November, 1984, following a public hearing, adopted the Master Plan for development of the Flag Ponds Natural Area.

Prepared By:

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NOTE: Development of this Plan was partially funded by a grant from the Department of Natural Resources, Coastal Zone Management Program, received from the Coastal Energy Impact Program, U.S. Department of Commerce.

NOTE: Development of this plan was coordinated with the Maryland Department of State Planning which reviewed it for conformance with the Maryland State Outdoor Recreation and Open Space Plan.

This plan has been found compatible by State Planning because it meets State objectives of providing public access to the Chesapeake Bay, by protecting areas of unique and scenic beauty, protects wetlands; and provides nature-oriented recreation opportunities.

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INTRODUCTION

The Acquisition

A County-wide search was initiated in May of 1979 for a suitable site to provide Bay or River access for County residents. Initially, 24 sites were identified as having some potential for recreational water access. These were screened for a variety of factors and narrowed to seven sites. It was later determined that a 327-acre area on the Chesapeake Bay (known locally as the Flag Ponds) was the best overall site for passive recreational opportunities and would satisfy several County goals and objectives.

Simultaneously, the Board of County Commissioners applied to the National Oceanic and Atmospheric Administration (N.O.A.A.) for federal funding to assist in the acquisition of the property through the Coastal Energy Impact Program (C.E.I.P.). The C.E.I.P. provided federal grants to assist states and their jurisdictions in dealing with the impacts of energy development in coastal areas.

The County Commissioners applied for a $500,000 grant under a category which allowed new acquisitions to help replace recreational resources lost through the siting of energy related facilities, specifically, the siting of the Columbia Liquified Natural Gas receiving terminal in Cove Point. The grant request was approved and acquisition of the property was completed on May 14, 1981.

The Planning Process

Master plans are designed to provide a continuity of purpose and action; to insure a long range focus that will govern development and programatic functions of a project.

Development of a master plan involves the systematic process of thorough site analysis, evaluation of environmental constraints, evaluation of community needs and cost consciousness in formulating plan alternatives.

This plan was prepared by the Department of Planning & Zoning in cooperation with an appointed technical advisory committee, to draft alternatives that are harmonious with the site constraints and needs of the community.

Throughout the planning process, elected officials, government representatives and citizens have been encouraged to help generate and refine plan alternatives. In addition, because of the unique character and environmental diversity of the Flag Ponds site, special emphasis was placed on coordinating with and gathering information from State and Federal agencies and the research community.

The last step in the master plan process is to hold a public hearing to gather public comments; after which the plan is revised accordingly.

The Board of County Commissioners then adopt the plan which becomes the basis for departmental requests for capital development and operational funds.

It should be recognized that a master plan is a dynamic document allowing a certain amount of flexibility and can be modified for a number of reasons. These may be changing recreational needs, budget limitations, or newly identified environmental considerations. In any case, a master plan should direct development in a manner that will result in an environmentally balanced, attractive, efficient and actively enjoyed park for all users!

"The Charge" -- "The Challenge"

The Calvert County Parks, Recreation and Open Space Plan recommends development of the Flag Ponds site for passive recreational opportunities. In addition, other pertinent recommendations contained in the plan, which may be accommodated on this site, include providing a site on the water which will protect unique or fragile habitat, establish a waterway trail system, provide for fishing (a pier), preservation of a historic house and, in general, water access.

The challenge, therefore, is to develop a passive recreational facility which meets these County goals and objectives while retaining and preserving the unique sensitivity of the site.

Even though the "Flag Ponds" have not been officially rated and evaluated against other sites in the Chesapeake Bay System, the site is commonly considered to be the most environmentally sensitive, diverse and unique area in the region. Nowhere else on the Western Shore is there a park with such a variety of physical characteristics available for use and interpretation.

This plan has been developed in a manner which will allow development until certain thresholds are reached; beyond which user enjoyment and environmental damage would occur. This is accomplished through phased development which allows otimum carrying capacities to be reached for individual activities; and through nodal development or use zones which relate aesthetically to one another; but separate varying types of activities which may not be totally compatible. In this way,

a great deal of flexibility is gained and it is possible to judge the rate of demand and use for each facility, thereby allowing development to take place accordingly. This method allows identification early on of decreases in user satisfaction or of environmental damage.

A "STRONG EMPHASIS" HAS BEEN PLACED ON USER ENJOYMENT OF THE NATURAL FEATURES, SCENIC QUALITY AND EDUCATIONAL BENEFITS OF THE AREA.

PHYSICAL CHARACTERISTICS

The Flag Ponds is one of the most unique natural areas in the Chesapeake Bay system. The diversity of land form, natural vegetation, and scenic quality are unparalleled, and are central to the development of the parks plans. The site analysis that follows describes and summarizes the wide range of geological, ecological and cultural resources of the park.

Geomorphology

The park is divided into two distinctively separate topographical areas which are a result of geological processes at work in the region.

There is a broad low lying sandy plain which adjoins the Chesapeake Bay and runs inland approximately 1400 feet to the base of a steep cliff that was once an actively eroding shoreline.

The low lying plain (the Flag Ponds) is an actively accreting cape which is the result of the deposition of sand derived from shoreline erosion to the north. The sand is transported to the site by longshore drift and deposited as beach ridges on the southern end of the cape. The flag ponds themselves are remnant lagoons, small patches of the Chesapeake trapped behind beach ridges.

The cape is migrating south along the coast as the northern end of the feature erodes and the south accretes. Between 1847 and 1945, the cape had migrated southward approximately 1500 feet and added several hundred feet of sand eastward on the site.

The main characteristic of this area is the broad sandy plain which is crossed by bands of open water, non-tidal marsh, moist hardwood forest and wooded swamps.

A steep cliff 80 to 120 feet high (once the original shoreline) approximately 1000 to 1400 feet inland and running in a north-south direction juts up from the plain. The cliff more or less forms a ridge line which slopes away gently toward and forms part of the drainage basin of St. Leonards Creek to the west. Thus, the drainage divide between the Chesapeake Bay and the Patuxent River (St. Leonards Creek) lies close to the top of the cliffs in this area.

The upland terrace area contains approximately 200 acres of the total site and is characterized by severely eroded and disected terrain. The highest point on the property is 120' above sea level.

Near Shore Bathymetry

The topographical contours (or bathymetry) of the water bottom in the area just offshore from the Flag Ponds were measured in detail to determine the water depths and to gain an understanding of potential future erosion or accretion rates on the site.

There is a large shoal developing off-shore that ranges from 200 feet out at the northern end to almost 1000 feet at the southern end and is exposed during extreme low tides. Water depths between the shore and the shoal range from one or two feet to almost eight feet. Toward the southern end of the site, the shoal and water depth suddenly drop off to much greater depths.

The bathymetry indicates that the southward accreting cape on land is extended off-shore beneath the surface. If the shoal continues to develop by capturing more of the southward moving sediment, it may reasonably be expected to eventually create a large new pond area to the east of the existing shoreline. (The time frame is unknown for this occurance, but most likely would be within 50 to 100 years.) However, if the sand supply from the north is interrupted by construction of jetties, etc. the Flag Pond area will stop growing and in time begin to erode. It appears that during recent years lengthening of stone groins at Calvert Beach and above is resulting in active erosion along the northernmost portion of the property. To date, the shoreline has receded approximately 75' since 1979.

Soils

Soils and topography are important in planning for any type of land use because they control the potential for construction, recreation, and other uses.

The park lies within the Othello-Keyport-Elkton association containing level to sloping, poorly drained to moderately drained soils that have a predominantly silty clay loam to clay subsoil.

The park can be divided into a low land or flood plain area and rolling upland. There are approximately 125 acres of flood plain area which consists of coastal beach, open fresh water ponds, marsh and swamp area. These soils are classified as class VII-VIII, which are severely restricted for all uses.

The remaining 200 acres contain soils of classes III-VIII. Use of these soils is severely restricted for most uses and requires implementation of special conservation practices when modified. However, some of the rolling upland terrain is well suited for carefully located facilities and is ideal for passive recreational activities. (The soils are shown on Map 21.)

Geology and Paleontology

Exposed along the bluffs and cliffs of the park are outcrops (marine sediments) of the Miocene Epoch. These beds (ten to twelve million years old) represent units of the Choptank Formation of the Chesapeake Group.

Overlying the Miocene sediments is a series of Pliocene and Pleistocene (Ice Age - three million to ten thousand year old) deposits consisting of gravels, sands and clays which form a terrace now modified by erosion into a rolling upland.

The sand deposits of the Flag Ponds area are geologically the youngest deposits in the region. The outer part of the cape has been accreted since the beginning of the century; and the oldest part, at the base of the cliffs, is almost certainly younger than 1000 years.

The severely modified terrace and the southward moving cape illustrate the erosional and depositional changes continually transforming the shorelines. The geological diversity of the park offers a rare opportunity to understand the area's past and the geological process at work.

Since almost the entire Calvert cliffs are being eroded, the Flag Ponds area is unusual in that it is actively accreting with the very sand eroded from cliffs to the north! The line of cliffs inland at Flag Ponds presents a rare example of how cliffs stabilize when wave action ceases.

Water Resources

The park is unusual in that it forms part of the drainage divide (ridge line) for the Patuxent River and Chesapeake Bay Basins.

To the west of the ridge line, the park drains into Woodland Branch which is part of the headwaters to Saint Leonards Creek.

To the east of the ridge line, the park drains into a low lying marshy area bordering the Chesapeake Bay. This area (approximately 100 acres) is located in the flood plain area as identified on the Flood Hazard Boundary Map issued by the Federal Emergency Management Agency.

A small amount of acreage at the northernmost portion of the park is designated as State Wetlands by the Maryland Department of Natural Resources.

The wetland area adjacent to the Chesapeake Bay is characterized by bodies of open water (ponds) which are surrounded by extensive non-tidal marsh and separated by moist hardwood forest and wooded swamp.

The park's eastern border lies on the Chesapeake Bay with 5000 feet of shoreline and is characterized by a narrow sandy beach at the southern end. Low dunes near the water's edge separate the Bay and the extensive non-tidal wetland area a short distance away. During extreme storm events, such as hurricanes, the interior wetlands are subject to tidal flooding.

Woodland

The property is characterized by a broad wetland and beach area adjacent to the Chesapeake Bay. This area comprises about 30% of the park and is located to the east of the base of a steep hillside (ridge line). Much of this area is open water and vegetated marsh area with the remainder in bottomland hardwood and forested swamp. The major species are loblolly pine, red maple and sweet gum.

The remainder of the property west of the ridge line (uplands) are completely wooded, with predominant species being yellow poplar, pine, and red and white oak.

Ecological Characteristics

Flag Ponds is a highly diverse natural area largely because of its developmental history. Not only are several distinct floral communities present, but several stages of succession are present. This diverse vegetation in turn would be expected to support a diverse fauna. The site's proximity to extensive upland forest enhances this essential diversity.

Below is a brief description of the natural communities on the site. Nomenclature follows Fernald (1950).

1. Dune Community:

The relatively recent, low dunes near the water's edge are covered with American Beachgrass (Ammophila breviligulata). Proceeding northwesterly and away from the water, the age of this community increases. A gradient of dune succession from the beachgrass sere to a loblolly pine (Pinus taeda) is evident. The incidence of shrubs increases, and seedling pine invasion begins. Predominant shrubs are wax-myrtle (Myrica cerifera), hightide-bush (Baccharis hamilifolia), and Indigo-bush (Amorpha fruticosa). Seedling tree species are less abundant and include loblolly pine, Persimmon (Diospyros virginiana), and Sweetgum (Liquidambar Styraciflua). In the troughs of the older dunes (which are also quite low), wetter conditions exist and favor the growth of various sedges and dense thickets of Indigo-bush. Dense thickets of Wax-myrtle are characteristic throughout the dune community. On the oldest dunes, monatypic stands of loblolly pine occur. Several small tidal pools have been created by active sand movement at the shoreline of the north end of the site. These pools support dense stands of Water Milfoil (Myriophyllum spicatum). Widgeongrass (Ruppia maritima) is also present. Wool-grass (Scirpus rubricosus) is common around the perimeter of one of these pools.

2. Bottomland Hardwood Forest/Swamp

This community type covers the majority of the site. Soil moisture varies from total saturation (and standing water present) to medium saturation (with a water table depth of about 1-2 feet). Average tree size is 9-12 inches diameter at breast height. Predominant tree species are loblolly pine, Sweetgum and Red Maple (Acer rubrum). Scattered Red Cedar (Juniperus virginiana) and Willow (Salix sp.) are also present. A dense understory of Wax-myrtle occurs on higher ground. Greenbrier (Smilax sp.) is also common.

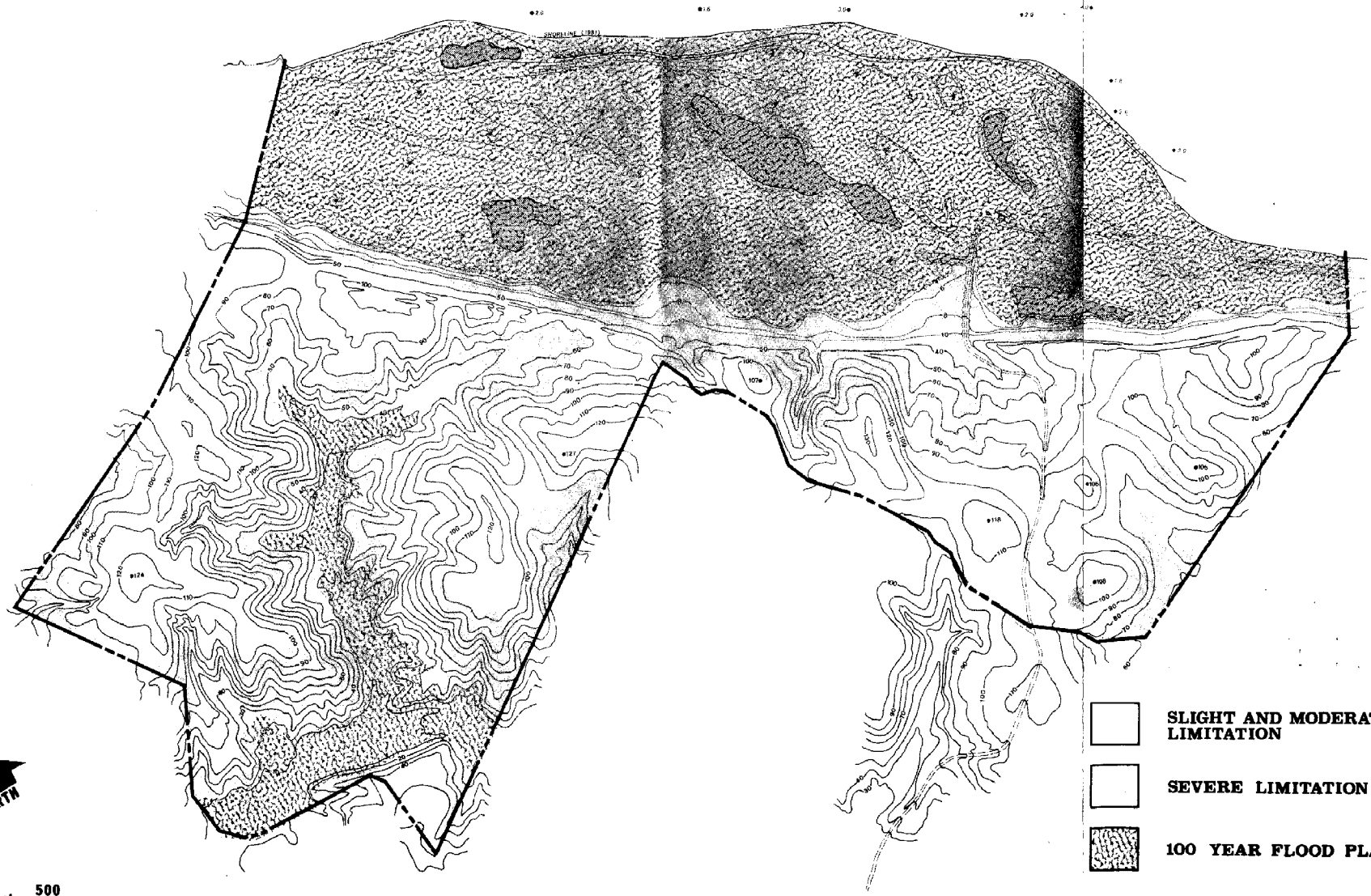
3. Ponds and Surrounding Marsh

Four irregularly-shaped ponds are present on the site. These ponds are surrounded by varying amounts (surface area) of marsh. The marshes are dominated by narrow-leaved cattail (Typha augustifolia) and Marsh-mallow (Hibiscus sp.); reedgrass (Phragmites australis) is also present. Duckweed (Lemna sp. or related genera) is common on the edges of the ponds and among marsh vegetation.

Wildlife observations indicate that the Flag Ponds site supports a varied fauna, including deer, raccoon, and other common mammals. The ponds and marshes are large enough to support characteristic species, and are widely used by migratory waterfowl. The extensive shrub thickets and bottomland forest provide ideal wintering habitat for various bird species.

FLAG PONDS NATURAL AREA

SITE ANALYSIS



HISTORICAL PERSPECTIVE

During the first half of this century, a significant pound net fishery existed along Calvert County's Bay shore from Drum Point to Plum Point. One site in particular, the area known as Flag Ponds, was ideal for pound net fishing. Flag Ponds' protected harbor sheltered the fishermen's boats from wind and weather and its wide beach provided ample space for the fishermen to store and prepare their extensive fishing gear. Flag Ponds was also close enough to the main highway, so that trucks could easily pick up and transport the daily catch to fresh fish markets in Baltimore.

Many of the pound net fishermen who set their stationary nets at Flag Ponds were from the Eastern Shore: the Richardsons, Todds, and Duncans were three Eastern Shore families who fished for several decades at Flag Ponds. These pound net fishermen hired Calvert County men for crew members, many of whom were black men from the Lusby and Port Republic areas.

The Duncan Brothers fished pound nets at Flag Ponds from 1919 until 1955. Although their permanent homes were still on the Eastern Shore, they lived in shanties at Flag Ponds from Monday through Saturday during the pound netting season, which ran from February through November. The shanties were simple structures, in which captains and crew alike cooked, ate, and slept. The pound net fishermen also constructed net houses on the beach, in which they stored their nets, floats, weights, and other gear.

During February and March the pound net fishermen mended and tarred nets, pounded the huge poles into the bottom of the Bay and hung the nets on the poles. These tasks were completed in time for the herring run, which generally occurred in late March or early April. During the herring glut they caught as many as 25 to 50 thousand herring in one net. The herring were sold to the Tilghman Packing Company, a "fish cutting house" on the Eastern Shore. After the herring run the fishermen expected to see shad and rock fish in May, then hardheads (croakers) and trout in June. Several fishermen recall finding unusual creatures such as sturgeon, sharks, and sea turtles in the nets.

The pound net fishery ended for the most part in the mid 1950's, due to the declining number of fish and the rising costs of equipment and labor. One shanty which belonged to Captain R. A. Todd remains at Flag Ponds. Although it is not certain when this shanty was built, one fisherman recalls it being there in 1937, when he first came to the site to fish.

DEVELOPMENT PLAN

In planning for the Flag Pond area, the emphasis has been placed on the park's "outstanding scenic" and "unusual natural resources".

Its location on the Chesapeake Bay, diversity of land form, natural vegetation, geology and visual quality, make it one of the most unique natural areas in the Chesapeake Bay system.

The phsyical characteristics that give the Flag Ponds its outstanding and unusual qualities are also the limiting factors for development. The coastal beach, extensive wetlands, and steep cliffs and ravines form physical barriers to development; but are suited for limited passive recreational and educational opportunities.

Therefore, a conservative approach to development is recommended. The development plan highlights and utilizes the park's unique assets in a manner that will protect their integrity while providing ample and diversified recreational opportunities.

All development will occur in a manner that protects and enhances the natural features of the area, and promotes an appreciation and understanding of the park's special attributes.

The major goals and ojbectives of the plan are:

Goal: Provide public access to the Chesapeake Bay while ensuring protection and perservation of the delicate beach ecosystem.

Objectives:

- Provide relatively easy access to the beach area.
- Provide a scenic overlook to the Chesapeake Bay.
- Provide a beach use area for sunbathing, wading and beach combing.
- Provide a fishing area separate from the higher intensity beach use area.
- Provide hiking and interpretive trails to the Chesapeake Bay.

Goal: Develop facilities, programs, practices and techniques which cultivate user understanding, appreciation and responsibility for the resources of the Flag Ponds and Chesapeake Bay.

Objectives:

- Provide hiking and interpretive trails along the ridge line (cliff), through the wetlands and swamp, along the beach and through the upland areas.
- Provide a park introduction/interpretive area.
- Provide trail-side scenic overlooks where possible.
- Provide primitive group camping areas.
- Provide elevated platforms near the pond areas for viewing purposes and nature study.
- Develop an interpretive exhibit on pound netting which utilizes Captain Todd's shanty.

MANAGEMENT PRACTICES

1. Protection:

   - Identify by zones areas suitable for use, for special management techniques, and for preservation.
   - Determine optimum group sizes and acceptable level of use for each development unit or zone, i.e., beach, fishing, trails, camping, hunting, etc.
   - Protect critical wildlife habitat and fragile natural areas by limiting access and use to compatible levels.
   - Provide on-site supervision as recommended in the Phased Implementation Program.
   - Provide physical barriers at the north and south property boundaries.

2. Recreation:

   - Facility development will be keyed to the carrying capacity of the natural systems.
   - Designate zones for desired activities (beach use, picnics, fishing, nature activities).
   - Develop facilities and programs in a manner that protects the natural amenities, while at the same time uses those assets to provide unique outdoor experiences.

3. Facilities:

   - Provide adequate facilities to support each developmental unit.
   - Design and develop facilities in a manner that blends in and enhances the tone and use of the park; that of a natural area.

4. Land Use Management:

   - Protect and preserve the unique natural features of the park.
   - Consider implementation where applicable of traditional resource management programs, i.e., conservation, preservation, utilization. For example, wildlife enhancement, wildlife habitat, vegetation forestry practices, etc.
   - All facility development and user application shall be designed in a manner that enhances rather than destroys, and protects rather than abuses; and which will meet the intent of The Chesapeake Bay Critical Area Program.

PHASED DEVELOPMENT PROGRAM

Phase I (FY 85, 86)

Facilities:

1. Improve entrance road
2. Provide security gates
3. Provide an initial parking area (A)
4. Provide a security residence

Use/Management

1. Provide on-site staff: Ranger and Security Resident
2. Develop initial hiking trails through volunteer programs
3. Develop interpretive programs
4. Delineate a fishing area
5. Establish a beach use area (sunbathing, wading, beach combing)
6. Continue the managed hunting program

Phase II (FY 87, 88, 89)

Facilities:

1. Construct the loop road system
2. Provide additional parking area (B & C)
3. Provide emergency road access to the beach and a small parking area for the elderly and handicapped
4. Construct an introduction area/reception center (with exterior restroom access)
5. Build a fishing pier
6. Develop a picnic area (area A)
7. Expand the trail network

Use/Management:

1. Exapnd on-site management
2. Develop trail-side exhibits (self guiding), brochures, etc.
3. Expand interpretive programs
4. Re-evaluate the managed hunting program based on available wildlife, safety and potential conflict with increasing diversifying park use.

Phase III (FY 90, 91)

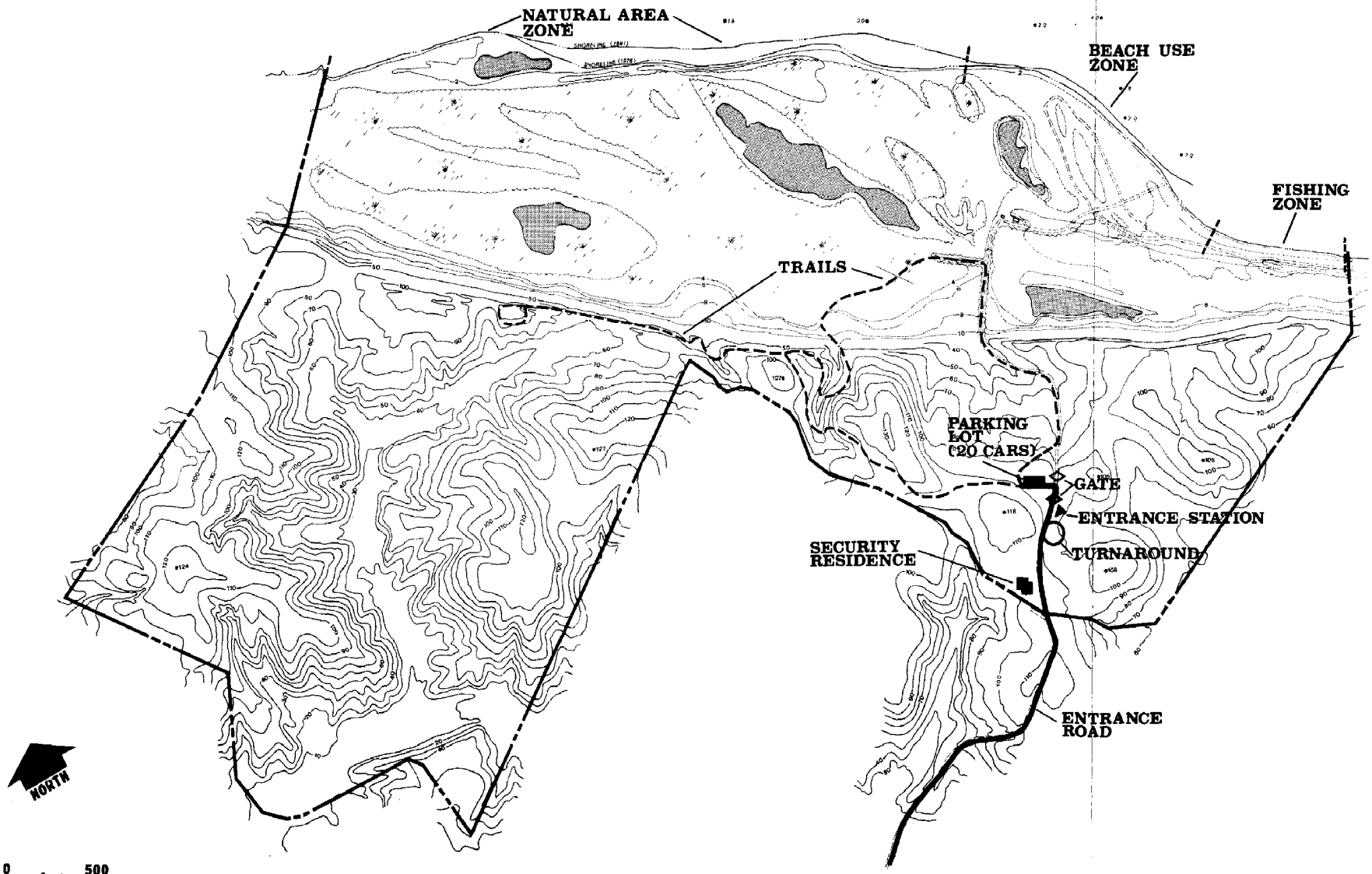
Facilities:

1. Construct cluster parking areas D and E
2. Complete the trail network (boardwalk, overlook towers, elevated platforms and hiking trails)
3. Develop primitive group camping areas
4. Expand picnic area facilities (area B)

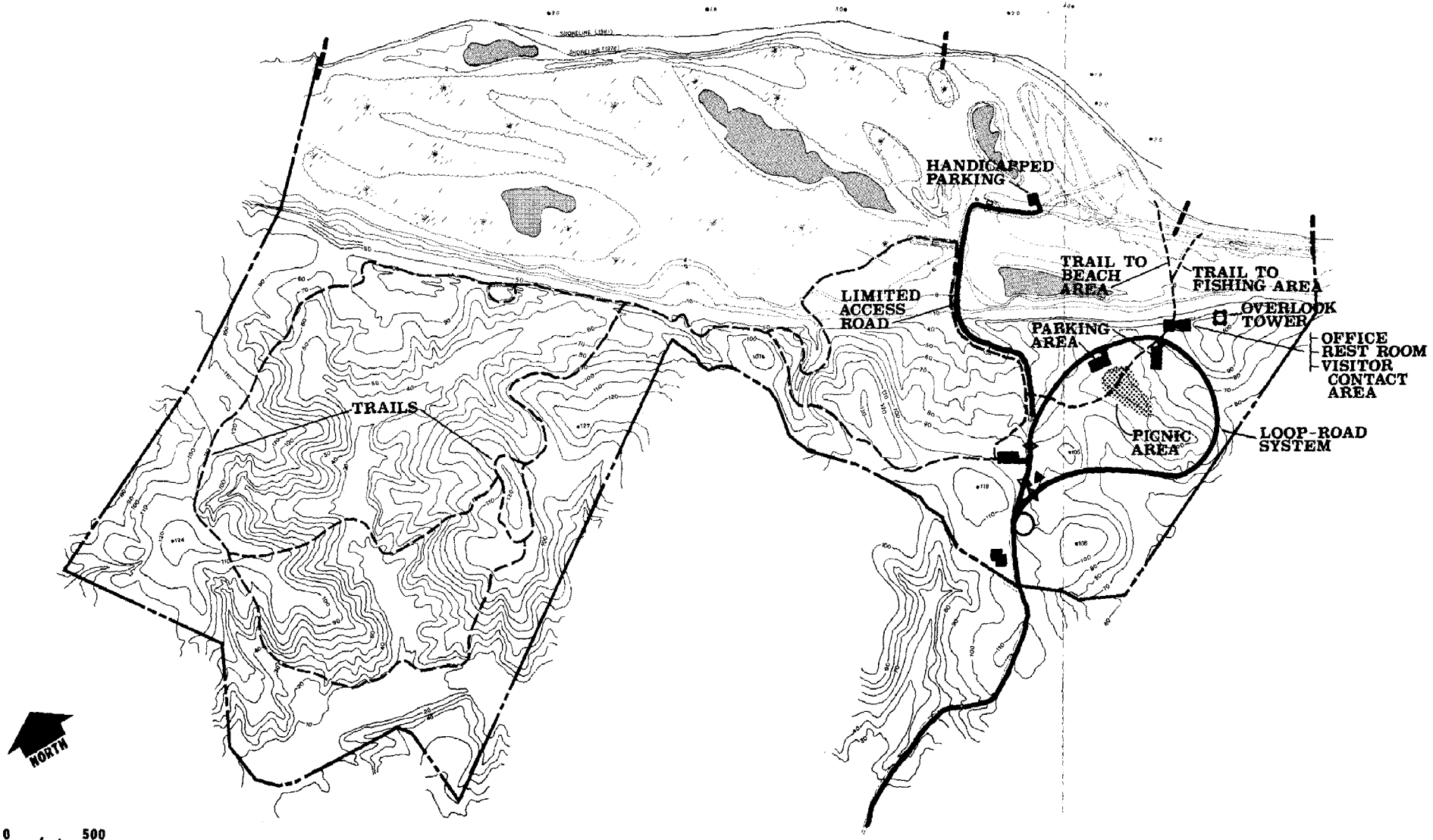
Use/Management:

1. Expand on-site management to meet needs
2. Develop interpretive exhibit on pound netting
3. Evaluate wildlife management program and implement for enhancement of wildlife opportunities

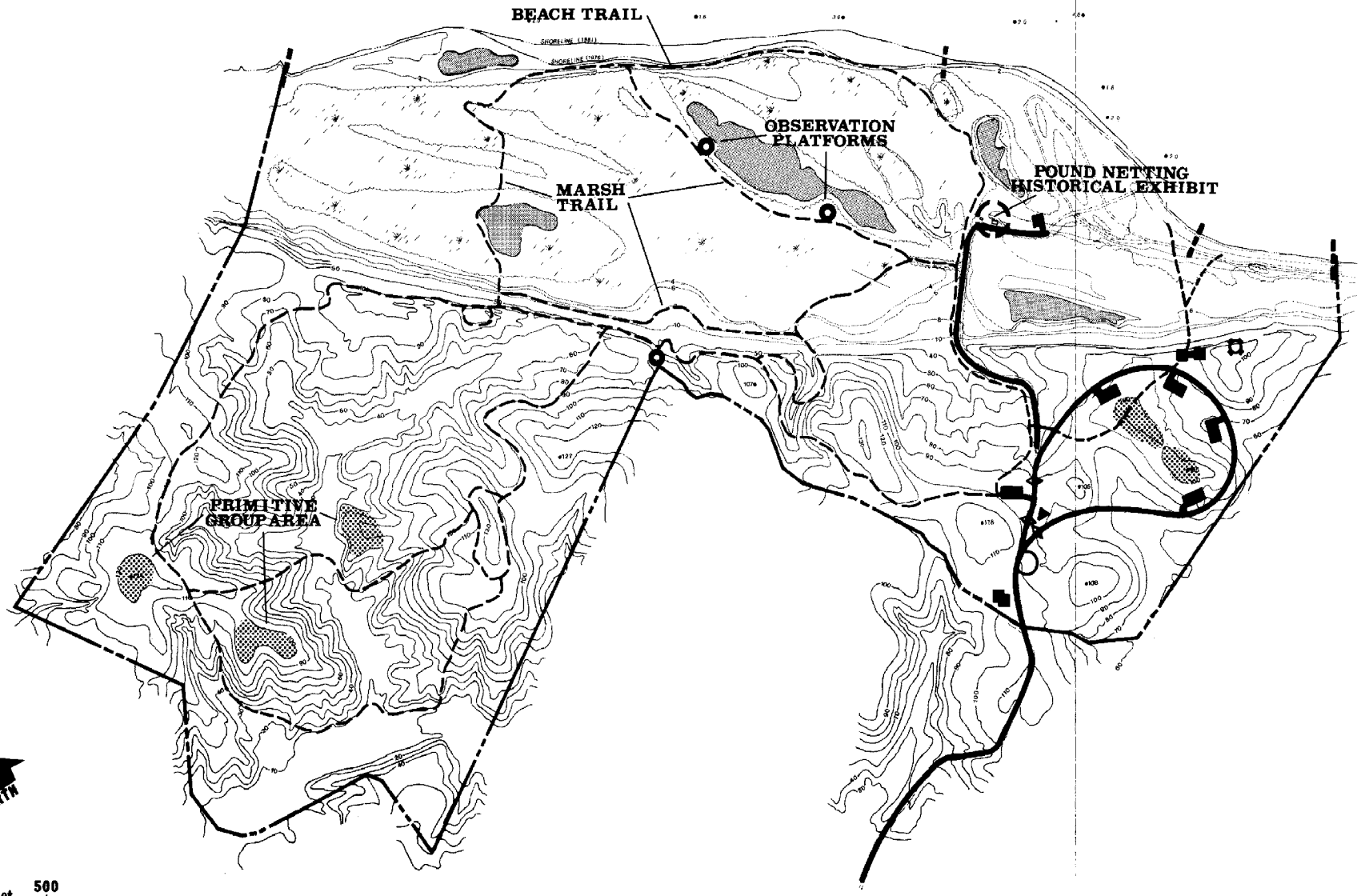
FLAG PONDS NATURAL AREA DEVELOPMENT PLAN PHASE I

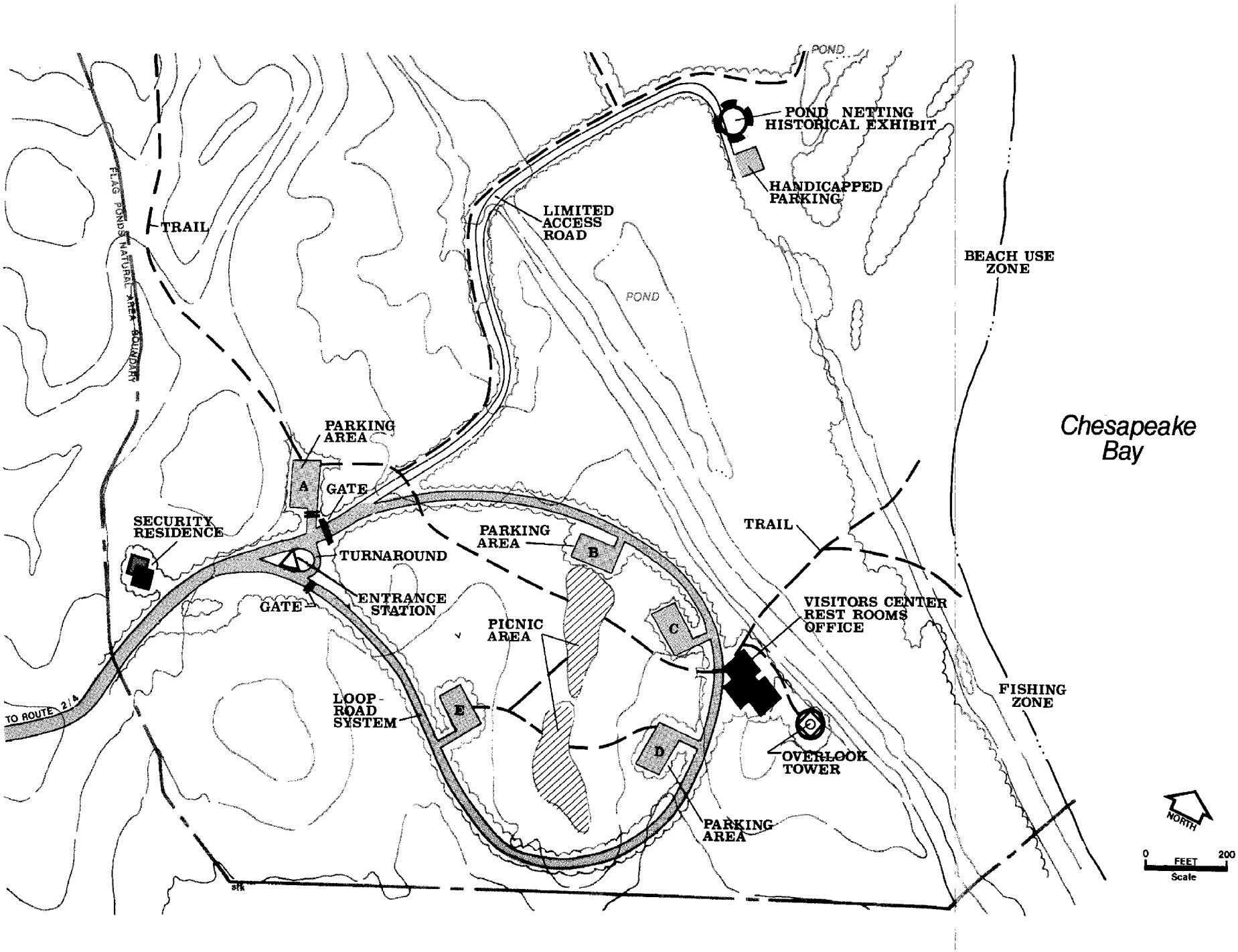


FLAG PONDS NATURAL AREA DEVELOPMENT PLAN PHASE II



FLAG PONDS NATURAL AREA DEVELOPMENT PLAN PHASE III

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POND NETTING
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FLAG POND NATURAL AREA BOUNDARY
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FACILITIES

Entrance Road

The boundary of the park is 3500 feet from Routes 2 and 4 and is connected by a marginally improved 30' right-of-way to the southwest corner. It is recommended that the road be improved (12' or 16') in a manner that retains the sensitive character of the landscape, and so that it may serve as an introduction to the park; subtly suggesting and enticing the visitor to the beauty that lies ahead.

Improvements would include grading, ditching and an application of gravel. It will be necessary to only provide a single lane for traffic with pull overs for passing cars.

The winding, rolling roadway should be preserved as it will help control speed and traffic volume, and add variety to the roadside scenery.

Additionally, where appropriate, two separate lanes should be provided for pull overs where large trees can be included in the traffic island for greater diversity and scenic beauty.

Interior Roads and Parking

The improved entrance road will continue for approximately 1400 feet inside the park boundary, where it will terminate at a small parking lot on the north side.

During Phase II, a loop road system should be constructed beginning and ending at the termination point for Phase I road work. The loop roadway will wind through the southeast corner of the park emerging at one point on a bluff that overlooks the Chesapeake Bay and then winding back inland toward the starting point.

This system would provide for smooth and efficient traffic flow and parking, and will retain and present good views of the Bay for visitors of the park.

Parking should be provided in small clustered parking lots that would be developed off of and separated by vegetation from the loop roadway. In this way, parking could be easily added as needed in a manner which would retain most of the woodland and which would provide cooling shade in the parking areas.

It is also recommended that the current roadway to Captain Todd's Shanty be improved to provide passage for emergency vehicles, and that a small parking area near the beach (10-15 cars) be provided to service handicapped and elderly needs.

Interior "forest roads" should be provided to serve as firebreaks and allow emergency vehicle access. There roadways will also serve as upland trails for hiking purposes.

Introduction/Reception Area

A general park introduction area shall be provided with central restrooms to serve the entire park! It is recommended that the park office, some exhibit areas and space for park information and trail maps be provided in an area close to the roadway and main trail which leads to the beach.

The building could be an open air pavillion with offices and restrooms built in or totally enclosed to serve year-round needs. In either case, it should be constructed of rugged natural materials (log or board and batten) to blend in with the general park theme.

Park Entrance Station

A small (10' x 10') entrance station should be located near the park boundary from which park control can be maintained. A probable location would be in the "Y" intersection of the loop road. In this location, gates could be installed which would control the entrance and exit road and the small parking lot to the north which would allow parking for hikers and hunters when the rest of the park is closed.

Security Residence

A security residence should be provided during Phase I to provide on-site staff to help prevent vandalism and provide park control during early park development. Later, when the park is more heavily utilized, a permanent on-site staff security officer should reside in the home to provide overall general security.

The residence should be located between the park boundary and the entrance station (1400' inside the park) to provide maximum control and have the least impact on park programatic themes and visitor utilization.

Overlook Tower

A 30' to 50' high overlook tower should be constructed near the visitors' center and trail leading to the beach to provide scenic vistas of the Chesapeake Bay, Flag Ponds and of the Calvert Cliffs to the south.

It is anticipated that the overlook tower will be a main attraction and will serve the occasional visitor and County resident that just wants to drive in, view the Bay and leave.

Construction from natural materials like logs or hewn beams will add a rugged natural look which will allow the structure to blend into the natural setting and be virtually invisible from the beach and Chesapeake Bay.

Trail System

It is anticipated that over five miles of hiking and nature trails will be developed to provide the public opportunities to visit every major ecosystem in the park. The unique geological processes at work and developmental history of the area provide unparalleled opportunities for nature study, interpretation and quiet walks through nature.

It should be noted that the Flag Pond area is probably the most diverse area in the Chesapeake Bay system, is constantly changing in a dramatic sense along the shoreline, and will be, when developed, a major attraction region-wide for nature enthusiasts and for student group studies.

Trails will bring the visitors across the dune system to the edge of the Chesapeake Bay and then wind inland through the complex of marsh and wooded swamps. A spur trail will allow access to at least one of the largest ponds on the property terminating in an elevated platform for easy viewing purposes. Additional trails will run along the base and ridge line of the interior cliffs and an upland trail which crosses woodland branch will complete the circuit.

Picnicking

Picnic areas should be provided to serve the visitors coming to the park to hike, fish, sunbath or visit the various interpretative facilities. The picnic areas will vary in size and design depending on the overall demand, but will be located away from the beach and interpretative areas.

It is recommended that two or more areas be provided in wooded areas just off the loop roadway adjacent to parking, restrooms, and the visitor center for easy access and maintenance. In the future, a covered picnic pavillion may be considered which would serve during inclement weather or for large families or groups.

Camping

Primitive camping areas should be provided in the most secluded area of the park near the northwest corner of the property off the upland trail system.

Facilities provided will be cleared areas with tent pads and privy toilets. These facilities are designed to accommodate serious campers who are willing to hike in and hike out carrying all supplies and returning with all trash. It is anticipated that groups like the scouts will be the primary users.

*There will be no camping for cars and trailers. Calvert Cliffs State Park will provide this service when developed.

Beach Use Zones

The beach along the Chesapeake Bay will be segmented into three separate use zones. In the southern most part, an area approximately 1000 feet in length will be delineated for fishing. This area contains the deepest water levels which are best for fishing and an area offshore with swift cross currents which preclude its use for swimming for safety reasons. A 200' pier will be built in this area to provide easy access and better fishing in the area.

The second zone will be a beach use area for sunbathing, wading and beach combing. This area will start next to the fishing zone and extend northward for 1300 feet, which includes the best sand beach areas on the property. Swimming is not recommended and will not be allowed due to the high cost of personnel needed to monitor and supervise the swimming activities.

An open air shower will be provided for beach users to quickly wash off sand before proceeding back to the parking area. The shower shall be a simple design consisting of an elevated plank deck or concrete pad with a metal pipe and shower head activated by a spring operated off-on lever. The shower will not be enclosed as it is not designed for bathing purposes but rather a quick wash off!

The northernmost zone is a designated natural area and will be incorporated into the bay-side trail system for hiking and nature study. Low intensity uses will be developed for this area and have controlled access via nature trails and by nature study groups. This area is especially unique in ecological diversity and will be the primary area used for nature study and for interpretative purposes.

Historic Areas

Captain Todd's Shanty is the only remnant of the pound net fishing industry which played in integral role in the daily activities of the site from about 1930 to 1950. It is anticipated that in cooperation with the Calvert Marine Museum, an outdoor exhibit utilizing Captain Todd's Shanty will be developed depicting the lifestyle of the pound net fishermen and their daily activities.

It is recommended that the shanty be immediately stabilized and retained until such time that public visitation warrants development of the exhibit.

DEVELOPMENT RECOMMENDATIONS

		Alternatives	Projected Cost
Phase I			
1. Entrance Road		*A. 12' wide with pull-overs	$40,000
	- or -		
		B. 16' wide	48,000
		Both roadways would include improved drainage, grading, new culverts, gravel and tar and chip on step road surfaces.	
2. Parking Area		Space for Approximately 20 Cars	10,000
3. Entrance Gates & Turn Around		*A. Heavy Wood Timbers	3,000
	- or -		
		B. 6' Chain Link Fence	5,000
4. Entrance Station		Construct 10' x 12' Building	6,000
5. Signs		Wooden Signs, identification and directional	1,500
6. Security Residence		Log or Wood-sided Residence of approximately 1200-1500 square feet	$60,000-75,000
Phase II			
1. Loop Road System		*A. Construct Loop in Two Phases:	
		½ in 1987 or 1988 (2000')	45,000
		½ in 1989 or 1990 (2000')	45,000
	- or -		
		B. Construct entire loop roadway (4000') in 1987-1990	80,000
2. Parking Areas B & C		*A. Construct Parking Areas B & C if ½ of loop is installed	20,000
	- or -		
		B. Construct Parking Areas B, C, D & E if entire loop roadway is constructed at one time	40,000
3. Emergency Beach Access & Parking		Improve and stabilize the roadway to an area near the beach and provide parking for 10 cars	40,000

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DEVELOPMENT RECOMMENDATIONS (cont.)

	Alternatives	Projected Cost
Phase II (cont.)		
4. Rest Rooms 5. Visitor Contact Area 6. Park Office Space	Items 4, 5 & 6 should be developed in one complex but may be developed in phases:	
	Restrooms 20x24' @ $50 per foot	$24,000
	Park Office 20x24' @ $50 per foot	24,000
	Visitor Contact Area 30x24' @ $25 per foot	18,000
		$66,000
7. Picnic Area A	Develop picnic area A (20 picnic tables)	5,000
8. Overlook Tower	Construct a 30' to 50' high observation tower	15,000
9. Trails	Develop approximately 16,000' of the upland and beach trail system	10,000
10. Fishing Pier	Construct a 200' pier with 30' "T"	35,000
Phase III		
1. Expand Picnic Area	Develop Area B (20 tables)	$ 5,000
2. Expand Parking as Needed	Develop Additional Areas (20-25 cars) each	10,000
3. Complete Trail Network	Boardwalks	25,000
	Elevated Platforms	4,000
4. Primitive Camping	Develop Camp Area with tent pads, open fire area, and outhouse	10,000
Others/As Needed		
1. Foot Shower on Beach		4,000
2. Additional parking areas off of Loop Roadway (20-25 cars each)		10,000 ea.

Others/As Needed (cont.)	Projected Cost
3. Develop Historical Exhibit on Pound Netting at Captain Todd's Shanty**	$10,000**

*Department of Planning & Zoning recommendation
**Development via Calvert Marine Museum

Notes:

Trails will be developed primarily through staff support and volunteers. There will be little direct capital cost involved!